AD-A070 563 ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2
19702A GSRS, MISSILE NUMBER 361, ROUND NUMBER B-4.(U)
MAR 79

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MARCH 1979

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METEOROLOGICAL DATA REPORT

19702A GSRS
Missile No. 361
Round No. B-4
(5 March 1979)

by

WSMR Meteorological Team

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM
UNITED STATES ARMY ELECTRONICS COMMAND

SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: DR-991	2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE *(and Subtitle)*: 19702A GSRS Missile Number 361 Round Number B-4	5. TYPE OF REPORT & PERIOD COVERED
6. PERFORMING ORG. REPORT NUMBER	
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16. DISTRIBUTION STATEMENT *(of this Report)*

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

18. SUPPLEMENTARY NOTES

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

1. Ballistics
2. Meteorology
3. Wind

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

Meteorological data gathered for the launching of 19702A GSRS, Missile Number 361, Round Number B-4, are presented in tabular form.

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UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

CONTENTS

INTRODUCTION

GSRS 19702A, Missile Number(s) 361, Round Number(s) B-4, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0900 MST, 5 March 1979. The scheduled launch time(s) were 0900 and _____ MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m^3), wind direction, wind velocity and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole mounted and tower mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

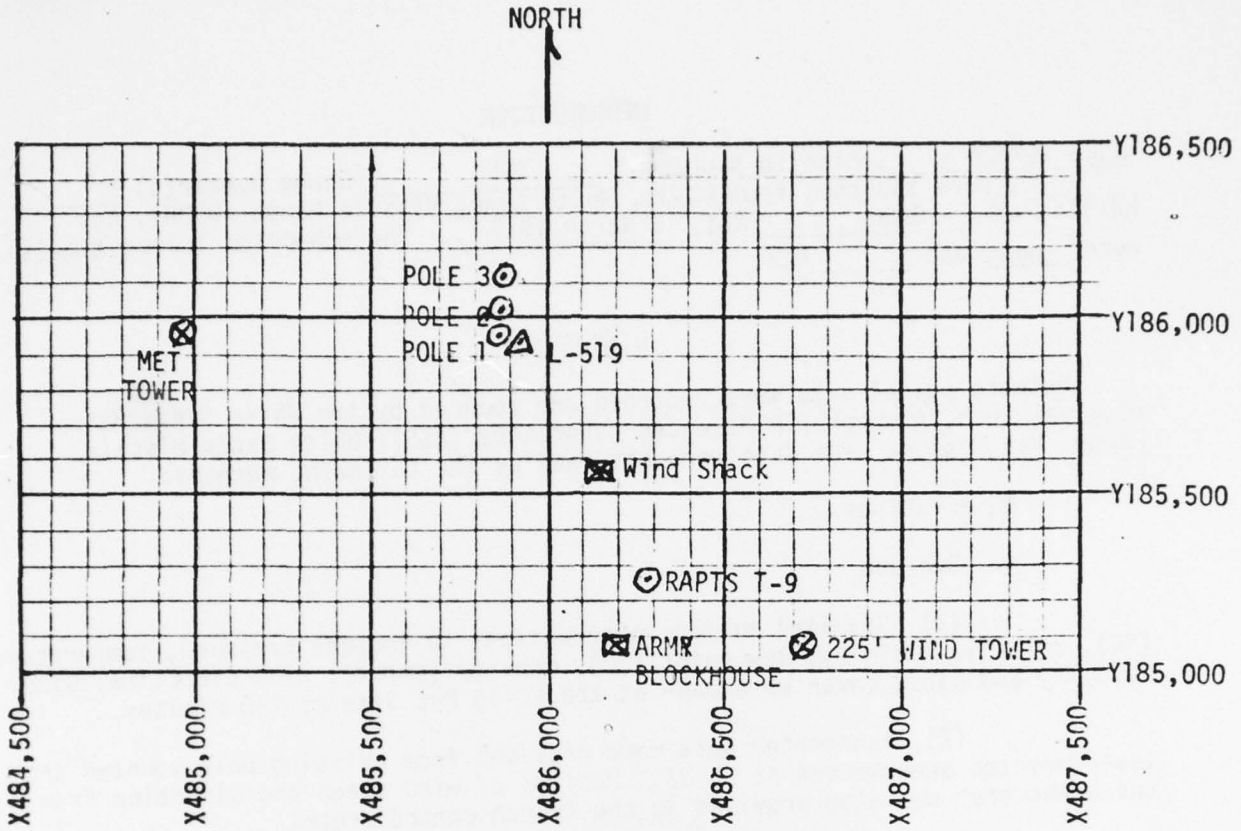
b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation as follows:

SITE AND ALTITUDE

LC-33 1 kilometer (50 meter inc)
at 0847 MST and 0900 MST

(2) Air structure data (rawinsonde) were collected at the WSD Met Site at T-0 minutes. Data were collected from surface to 125% of apogee in 500-feet increments.



1. MET TOWER - 4 Bendix Model T-120 Anemometers at 12 ft, 62 ft, 102 ft and 202 ft with E/A recorders in Wind Shack.

2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders in Wind Shack

   (a) Pole #1 - 38.7 ft

   (b) Pole #2 - 53.0 ft

   (c) Pole #3 - 83.6 ft

3. 225 FT WIND TOWER - 5 Bendix Model T-120 Anemometers at 35 ft, 88 ft, 128 ft, 168 ft and 200 ft with 5 X-Y visual indicators in Blockhouse.

4. RAPTS T-9 - Radar Automatic Pilot-Balloon Tracking System T-9 Radar

The data are presented in the following tabulations:

ELEVATION	3977.30	FEET/MSL
PRESSURE	887.9	MBS
TEMPERATURE	6.6	°C
RELATIVE HUMIDITY	35	%
DEW POINT	-7.7	°C
DENSITY	1102	GM/M^3
WIND SPEED	02	MPH
WIND DIRECTION	360	DEGREES
CLOUD COVER	Clear	

TABLE I. SURFACE OBSERVATIONS TAKEN AT LC-33
AT 0900 MST/5 MARCH 1979
19702A GSRS, Missile Number 361
Round Number B-4.

LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 *			POLE #2 *			POLE #3		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	340	M	-30	M	04	-30	355	05
-20	360	M	-20	M	04	-20	350	06
-10	360	M	-10	M	04	-10	350	06
0.0	355	M	0.0	M	04	0.0	355	06
+10	360	M	+10	M	04	+10	350	05

POLE #1 = X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL

POLE #2 = X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL

POLE #3 = X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL

* Pen not inking.

TABLE II

TYPE 19702A GSRS MISSILE NO. 361 ROUND NO. B-4

LAUNCHED FROM LC-33 DATE 5 March 1979 TIME 0900 LST

NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH

OR TRUE NORTH 360°.

LC33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1 12 ft			LEVEL #2 62 ft		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	345	02	-30	355	06
-20	010	04	-20	360	09
-10	360	08	-10	360	09
0.0	350	07	0.0	355	10
+10	350	07	+10	355	09
LEVEL #3 102 ft			**LEVEL #4 202 ft**		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	360	04	-30	355	08
-20	360	08	-20	005	08
-10	355	08	-10	005	09
0.0	360	09	0.0	345	07
+10	355	08	+10	355	08

WTSM COORDINATES: X484,982.64 Y185,957.73 H3983.00(base)

TABLE III

TYPE (AL) 19702A GSRS MISSILE NO. 361 ROUND NO. B-4

LAUNCHED FROM LC-33 DATE 5 March 1979 TIME 0900 MST

NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH

OR TRUE NORTH 360°.

PILOT BALLON MEASURED WIND DATA

HEIGHT METERS	DIRECTION DEGREES	SPEED MPH
SUR	360	20
50	Calm	Calm
100	036	1.4
150	006	6.2
200	004	9.0
250	004	11.0
300	013	16.0
350	012	18.5
400	002	14.4
450	013	14.5
500	013	13.0

HEIGHT METERS	DIRECTION DEGREES	SPEED MPH
550	023	11.0
600	021	9.0
650	011	12.0
700	009	12.0
750	026	12.0
800	030	10.0
850	046	7.3
900	009	3.9
950	010	3.3
1000	038	4.1
1050		

TABLE IV

RELEASED FROM LC-33 Mobile T-9 DATE 5 March 1979 TIME 0847 LST

RELEASE POINT COORDINATES (WSTM) X= 486,037.24 Y= 182,350.16 H= 3977.30

MISSILE TYPE (AL) 19702A GSRS MISSILE NO. 361 ROUND NO. B-4

MISSILE LAUNCHED FROM LC-33 DATE 5 March 1979 TIME 0900 LST

NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH

OR TRUE NORTH 360°.

PILOT BALLON MEASURED WIND DATA

HEIGHT METERS	DIRECTION DEGREES	SPEED MPH
SUR	360	20
50	Calm	Calm
100	006	1.0
150	015	4.6
200	018	10.0
250	023	11.0
300	022	14.5
350	011	16.0
400	017	14.0
450	010	13.0
500	017	13.0

HEIGHT METERS	DIRECTION DEGREES	SPEED MPH
550	010	12.0
600	005	11.5
650	007	11.5
700	012	13.0
750	013	12.0
800	029	10.0
850	036	7.2
900	033	3.1
950	024	3.4
1000	035	6.3
1050		

TABLE V

RELEASED FROM LC-33 T-9 Mobile DATE 5 March 1979 TIME 0900 LST

RELEASE POINT COORDINATES (WSTM) X=486,037.24 Y=182,350.16 H= 3977.30

MISSILE TYPE (AL) 19702A GSRS MISSILE NO. 361 ROUND NO. B-4

MISSILE LAUNCHED FROM LC-33 DATE 5 March 1979 TIME 0900 LST

NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH

OR TRUE NORTH 360°.

STATION ALTITUDE 3989.00 FEET MSL
5 MAR. 79 0900 HRS MST
ASCENSION NO. 113

SIGNIFICANT LEVEL DATA
0690020113
WHITE SANDS

GEODETIC COORDINATES
32.40093 LAT DEG
106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
888.2	3989.0	7.8	-7.1	34.0
862.4	4781.3	4.0	-9.7	36.0
850.0	5167.9	4.0	-10.0	35.0
797.4	6866.5	2.5	-12.5	32.0
787.0	7217.2	2.7	-12.7	31.0
700.0	10286.6	-5.0	-15.3	44.0
675.5	11199.0	-7.4	-16.4	41.0
666.0	11565.0	-7.8	-27.9	18.0
656.4	11936.7	-6.8	-27.1	18.0
574.2	15333.1	-12.3	-31.7	18.0
500.0	18761.2	-19.6	-37.2	19.0
400.0	24065.6	-33.3	-46.8	24.0
377.0	25426.3	-36.2	-49.4	24.0
300.0	30501.0	-49.3		
250.0	34378.3	-56.0		
232.2	35915.3	-58.9		
207.2	38304.9	-52.6		
200.0	39054.9	-54.2		
184.2	40796.0	-53.7		
179.8	41309.7	-52.3		
150.0	45160.4	-53.8		
142.8	46202.4	-53.8		
139.0	46772.1	-55.0		
100.0	53650.4	-58.9		
70.0	61007.2	-60.7		
65.9	62243.8	-61.9		
62.8	63236.3	-58.5		
50.0	67970.0	-58.5		
39.2	73028.6	-58.3		
33.8	76146.7	-53.5		
30.0	78679.5	-54.3		
27.4	80598.6	-55.0		
25.6	82044.5	-52.1		
20.0	87336.2	-51.9		
15.1	93462.0	-44.9		

STATION ALTITUDE 3989.00 FEET MSL
5 MAR. 79 0900 HRS MST
ASCENSION NO. 113

UPPER AIR DATA
0640020113
WHITE SANDS

GEODETIC COORDINATES
32.-0093 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	888.2	7.8	-7.1	34.0	1099.6	653.5	.0	.0	1.000262
4000.0	887.8	7.7	-7.1	34.0	1099.4	653.4	24.8	.1	1.000262
4500.0	871.5	5.3	-8.7	35.3	1088.6	650.6	24.8	2.7	1.000258
5000.0	855.4	4.0	-9.9	35.4	1073.8	649.0	24.8	5.4	1.000253
5500.0	839.5	3.7	-10.5	34.4	1055.0	648.6	24.8	8.1	1.000249
6000.0	823.8	3.3	-11.2	33.5	1037.1	648.1	27.7	8.1	1.000249
6500.0	808.5	2.8	-12.0	32.7	1019.4	647.6	36.3	5.8	1.000239
7000.0	793.5	2.6	-12.6	31.6	1001.4	647.3	49.8	4.3	1.000235
7500.0	778.6	2.0	-12.9	32.2	984.7	646.6	69.6	3.4	1.000231
8000.0	763.8	.7	-13.2	34.3	970.5	645.1	59.0	2.1	1.000227
8500.0	747.4	-.5	-13.6	36.4	956.5	643.6	1.2	1.2	1.000224
9000.0	735.2	-1.8	-14.0	38.6	942.8	642.1	301.9	3.1	1.000221
9500.0	721.3	-3.0	-14.5	40.7	929.3	640.6	297.2	5.8	1.000217
10000.0	707.7	-4.3	-15.0	42.8	916.0	639.1	297.6	8.6	1.000214
10500.0	694.2	-5.6	-16.0	43.3	902.9	637.6	303.0	9.6	1.000210
11000.0	680.8	-6.9	-17.7	41.7	890.0	636.0	310.9	9.5	1.000206
11500.0	667.7	-7.7	-25.6	22.1	876.0	634.8	330.8	7.7	1.000199
12000.0	654.8	-6.9	-27.2	18.0	856.4	635.8	346.7	7.7	1.000194
12500.0	642.0	-7.7	-27.8	18.0	842.3	634.8	355.8	8.6	1.000191
13000.0	629.5	-8.5	-28.5	18.0	828.4	633.9	352.7	10.9	1.000188
13500.0	617.2	-9.3	-29.2	18.0	814.7	632.9	351.4	13.8	1.000184
14000.0	605.2	-10.1	-29.9	18.0	801.3	631.9	351.1	17.1	1.000181
14500.0	593.4	-11.0	-30.5	18.0	788.1	630.9	350.4	19.1	1.000178
15000.0	581.8	-11.8	-31.2	18.0	775.1	629.9	349.5	20.8	1.000175
15500.0	570.3	-12.7	-31.9	18.0	762.5	628.9	348.2	22.0	1.000172
16000.0	558.9	-13.7	-32.7	18.0	750.4	627.6	343.0	23.9	1.000169
16500.0	547.8	-14.8	-33.5	18.3	738.4	626.3	337.5	26.1	1.000166
17000.0	536.8	-15.8	-34.4	18.5	726.7	625.0	334.9	27.2	1.000164
17500.0	526.1	-16.9	-35.2	18.6	715.1	623.7	334.3	27.7	1.000161
18000.0	515.6	-18.0	-36.0	18.8	703.8	622.4	335.9	27.7	1.000158
18500.0	505.3	-19.0	-36.8	18.9	692.6	621.1	335.5	29.1	1.000156
19000.0	495.0	-20.2	-37.7	19.2	681.6	619.6	334.6	31.0	1.000153
19500.0	484.7	-21.5	-38.5	19.7	670.9	618.0	333.4	33.5	1.000151
20000.0	474.6	-22.8	-39.4	20.2	660.3	616.5	331.9	35.4	1.000148
20500.0	464.7	-24.1	-40.3	20.6	649.9	614.9	329.9	36.4	1.000146
21000.0	455.1	-25.4	-41.2	21.1	639.7	613.3	328.1	36.4	1.000143
21500.0	445.6	-26.7	-42.1	21.6	629.7	611.7	326.5	36.1	1.000141
22000.0	436.3	-28.0	-43.0	22.1	619.9	610.1	326.0	37.6	1.000139
22500.0	427.2	-29.3	-43.9	22.5	610.2	608.4	327.1	39.0	1.000137
23000.0	418.3	-30.5	-44.8	23.0	600.7	606.8	329.6	40.3	1.000134

STATION ALTITUDE 3989.00 FEET MSL
5 MAR. 79 0900 HRS MST
ASCENSION NO. 113

UPPER AIR DATA
0840020113
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GR/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TM)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	409.6	-31.8	-45.6	23.5	591.3	605.2	326.8	41.7	1.000134
24000.0	401.1	-32.1	-46.7	23.4	582.1	602.6	326.9	43.1	1.000130
24500.0	392.5	-34.2	-47.6	24.0	572.3	602.2	324.7	44.5	1.000128
25000.0	384.1	-35.3	-48.6	24.0	562.5	600.9	322.4	45.9	1.000126
25500.0	375.8	-36.4	-49.7	23.7**	552.8	599.5	322.1	46.1	1.000124
26000.0	367.4	-37.7	-51.7	21.3**	543.5	597.8	322.3	46.2	1.000121
26500.0	359.2	-39.0	-53.8	18.9**	534.3	596.2	324.1	46.1	1.000119
27000.0	351.2	-40.3	-55.7	16.6**	525.3	594.5	325.3	46.1	1.000117
27500.0	343.4	-41.6	-58.3	14.2**	516.5	592.9	326.0	46.2	1.000115
28000.0	335.8	-42.8	-60.7	11.8**	507.9	591.2	326.0	47.1	1.000113
28500.0	328.3	-44.1	-63.5	9.5**	499.4	589.6	325.7	48.4	1.000111
29000.0	321.0	-45.4	-66.6	7.1**	491.0	587.9	325.1	47.9	1.000109
29500.0	313.8	-46.7	-70.4	4.7**	482.8	586.2	324.5	46.9	1.000108
30000.0	306.8	-48.0	-75.9	2.4**	474.8	584.6	323.9	45.9	1.000106
30500.0	300.0	-49.3	-108.2	.0**	466.9	582.9	322.3	44.9	1.000104
31000.0	293.0	-50.2			457.8	581.7	322.0	44.6	1.000102
31500.0	286.2	-51.0			448.9	580.6	321.9	44.6	1.000100
32000.0	279.6	-51.9			440.2	579.5	319.5	43.4	1.000098
32500.0	273.1	-52.8			431.6	578.4	316.5	42.2	1.000096
33000.0	266.7	-53.6			423.3	577.2	308.3	41.9	1.000094
33500.0	260.5	-54.5			415.1	576.1	299.2	42.8	1.000092
34000.0	254.5	-55.3			407.0	574.9	294.7	47.4	1.000091
34500.0	248.5	-55.2			399.1	573.8	291.8	52.7	1.000089
35000.0	242.6	-57.2			391.4	572.5	294.3	56.0	1.000087
35500.0	236.9	-58.1			383.8	571.3	297.5	59.1	1.000085
36000.0	231.3	-58.7			375.6	570.5	302.5	56.7	1.000084
36500.0	225.8	-57.4			364.5	572.3	310.2	54.3	1.000081
37000.0	220.5	-56.0			353.8	574.0	311.0	49.4	1.000079
37500.0	215.3	-54.7			343.4	575.8	314.2	44.6	1.000076
38000.0	210.2	-53.4			333.3	577.5	309.5	42.4	1.000074
38500.0	205.3	-53.0			324.9	578.0	304.3	40.6	1.000072
39000.0	200.5	-54.1			318.9	576.6	299.4	40.9	1.000071
39500.0	195.8	-54.1			311.4	576.6	294.6	41.8	1.000069
40000.0	191.3	-53.9			303.9	576.8	292.4	42.3	1.000068
40500.0	186.8	-53.8			296.6	577.0	292.1	42.1	1.000066
41000.0	182.4	-53.1			288.9	577.8	292.4	41.9	1.000064
41500.0	178.2	-52.4			281.2	578.9	294.1	41.3	1.000063
42000.0	174.1	-52.6			274.9	578.6	295.7	40.7	1.000061
42500.0	170.0	-52.8			268.7	578.3	293.8	41.3	1.000060
43000.0	166.1	-53.0			262.7	578.1	292.0	41.9	1.000059

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA
0A40020113
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
5 MAR. 79 0900 HRS MST
ASCENSION NO. 113

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
43500.0	162.2	-53.2			256.8	577.8	291.4	41.9	1.000057
44000.0	158.4	-53.3			251.1	577.6	291.3	41.7	1.000056
44500.0	154.7	-53.5			245.5	577.3	293.0	40.9	1.000055
45000.0	151.1	-53.7			240.0	577.1	297.0	39.4	1.000053
45500.0	147.6	-53.8			234.4	577.0	300.6	38.2	1.000052
46000.0	144.2	-53.8			229.0	577.0	301.1	36.5	1.000051
46500.0	140.8	-54.4			224.3	576.2	301.6	34.8	1.000050
47000.0	137.5	-55.1			219.7	575.2	300.0	32.8	1.000049
47500.0	134.2	-55.4			214.8	574.9	297.7	30.7	1.000048
48000.0	131.1	-55.7			210.0	574.5	295.1	29.2	1.000047
48500.0	128.0	-56.0			205.3	574.1	292.4	28.4	1.000046
49000.0	124.9	-56.3			200.7	573.7	289.7	27.9	1.000045
49500.0	122.0	-56.5			196.2	573.4	288.1	28.4	1.000044
50000.0	119.1	-56.8			191.8	573.0	286.5	29.0	1.000043
50500.0	116.3	-57.1			187.5	572.6	284.4	28.3	1.000042
51000.0	113.5	-57.4			183.3	572.2	282.1	27.5	1.000041
51500.0	110.8	-57.7			179.2	571.9	280.4	26.4	1.000040
52000.0	108.2	-58.0			175.2	571.5	279.2	25.0	1.000039
52500.0	105.7	-58.2			171.3	571.1	279.2	24.0	1.000038
53000.0	103.2	-58.5			167.5	570.7	280.8	24.5	1.000037
53500.0	100.7	-58.8			163.7	570.4	282.0	25.4	1.000036
54000.0	98.3	-59.0			159.9	570.1	283.6	26.1	1.000036
54500.0	96.0	-59.1			156.2	570.0	283.8	26.7	1.000035
55000.0	93.7	-59.2			152.5	569.8	283.6	27.5	1.000034
55500.0	91.4	-59.4			149.0	569.6	282.9	28.6	1.000033
56000.0	89.2	-59.5			145.5	569.5	282.6	29.7	1.000032
56500.0	87.1	-59.6			142.1	569.3	284.5	29.7	1.000032
57000.0	85.0	-59.7			138.8	569.1	306.4	30.0	1.000031
57500.0	83.0	-59.8			135.5	569.0	313.1	27.3	1.000030
58000.0	81.0	-60.0			132.3	568.8	321.8	23.5	1.000029
58500.0	79.0	-60.1			129.2	568.7	330.9	20.0	1.000029
59000.0	77.2	-60.2			126.2	568.5	337.6	16.2	1.000028
59500.0	75.3	-60.3			123.3	568.3	347.7	12.8	1.000027
60000.0	73.5	-60.5			120.4	568.2	353.9	10.1	1.000027
60500.0	71.7	-60.6			117.6	568.0	4.3	7.7	1.000026
61000.0	70.0	-60.7			114.8	567.8	9.3	5.8	1.000026
61500.0	68.3	-61.2			112.3	567.2	12.4	4.2	1.000025
62000.0	66.7	-61.7			109.9	566.5	352.7	2.7	1.000024
62500.0	65.1	-61.0			106.9	567.4	298.6	3.2	1.000024
63000.0	63.5	-59.3			103.5	569.7	278.0	4.9	1.000023

STATION ALTITUDE 3989.00 FEET MSL
5 MAR. 79 0900 HRS MST
ASCENSION NO. 113

UPPER AIR DATA
0849020113
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
63500.0	62.0	-56.5			100.6	570.8	278.4	4.9	1.000022
64000.0	60.5	-56.5			98.2	570.8	276.8	5.0	1.000022
64500.0	59.1	-56.5			95.9	570.8	296.5	4.0	1.000021
65000.0	57.7	-56.5			93.6	570.8	324.4	3.6	1.000021
65500.0	56.3	-56.5			91.4	570.8	346.0	4.1	1.000020
66000.0	55.0	-56.5			89.2	570.8	356.1	4.9	1.000020
66500.0	53.7	-56.5			87.1	570.8	4.2	5.7	1.000019
67000.0	52.4	-56.5			85.0	570.8	2.1	5.9	1.000019
67500.0	51.1	-56.5			83.0	570.8	.1	6.1	1.000018
68000.0	49.9	-56.5			81.0	570.8	6.1	5.1	1.000018
68500.0	48.7	-56.5			79.1	570.8	21.3	4.2	1.000018
69000.0	47.6	-56.5			77.2	570.8	32.8	3.8	1.000017
69500.0	46.5	-56.4			75.4	570.9	34.2	4.1	1.000017
70000.0	45.3	-56.4			73.6	570.9	35.4	4.4	1.000016
70500.0	44.3	-56.4			71.8	570.9	38.2	4.6	1.000016
71000.0	43.2	-56.4			70.1	570.9	41.1	4.9	1.000016
71500.0	42.2	-56.4			68.4	571.0	46.8	5.1	1.000015
72000.0	41.2	-56.3			66.8	571.0	69.9	5.3	1.000015
72500.0	40.2	-56.3			65.2	571.0	86.6	6.2	1.000015
73000.0	39.3	-56.3			63.6	571.0	101.3	6.3	1.000014
73500.0	38.3	-57.6			61.9	572.0	115.5	5.5	1.000014
74000.0	37.4	-56.8			60.3	573.0	133.0	5.1	1.000013
74500.0	36.6	-56.0			58.6	574.0	141.0	4.8	1.000013
75000.0	35.7	-55.3			57.1	575.1	140.7	4.4	1.000013
75500.0	34.9	-54.5			55.5	576.1	155.1	3.9	1.000012
76000.0	34.0	-53.7			54.0	577.1	152.6	2.6	1.000012
76500.0	33.2	-53.6			52.7	577.2	145.2	1.3	1.000012
77000.0	32.5	-53.8			51.6	577.0	120.1	.8	1.000011
77500.0	31.7	-53.9			50.4	576.8	99.5	1.0	1.000011
78000.0	31.0	-54.1			49.3	576.6	86.0	1.2	1.000011
78500.0	30.3	-54.2			48.1	576.4	101.5	2.0	1.000011
79000.0	29.5	-54.4			47.1	576.2	108.8	2.9	1.000010
79500.0	28.9	-54.6			46.0	576.9	110.3	3.6	1.000010
80000.0	28.2	-54.8			45.0	575.7	104.4	3.3	1.000010
80500.0	27.5	-55.0			44.0	575.5	97.6	3.1	1.000010
81000.0	26.9	-54.2			42.8	576.5	96.2	3.0	1.000010
81500.0	26.3	-53.2			41.6	577.8	103.6	3.1	1.000009
82000.0	25.7	-52.2			40.4	579.1	106.7	3.2	1.000009
82500.0	25.1	-52.1			39.5	579.2	122.7	4.3	1.000009
83000.0	24.5	-52.1			38.6	579.3	131.2	5.5	1.000009

UPPER AIR DATA
0540020113
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
5 MAR. 79 0900 HRS MST
ASCENSION NO. 113

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
83500.0	23.9	-52.0			37.7	579.3	137.6	6.7	1.000006
84000.0	23.4	-52.0			36.8	579.3	145.4	7.6	1.000006
84500.0	22.8	-52.0			36.0	579.3	151.6	8.5	1.000006
85000.0	22.3	-52.0			35.1	579.4	155.8	8.9	1.000006
85500.0	21.8	-52.0			34.3	579.4	159.3	8.9	1.000006
86000.0	21.3	-52.0			33.5	579.4	162.8	8.9	1.000007
86500.0	20.8	-51.9			32.7	579.4	169.7	9.3	1.000007
87000.0	20.3	-51.9			32.0	579.5	177.1	10.0	1.000007
87500.0	19.9	-51.7			31.2	579.7	183.4	10.9	1.000007
88000.0	19.4	-51.1			30.4	580.5	191.8	10.6	1.000007
88500.0	19.0	-50.6			29.7	581.2	201.7	10.2	1.000007
89000.0	18.5	-50.0			28.9	582.0	212.2	10.1	1.000006
89500.0	18.1	-49.4			28.2	582.7	215.3	9.2	1.000006
90000.0	17.7	-48.9			27.5	583.5	217.8	8.1	1.000006
90500.0	17.3	-48.3			26.8	584.2	221.1	7.1	1.000006
91000.0	16.9	-47.7			26.1	584.9	230.9	8.2	1.000006
91500.0	16.5	-47.1			25.5	585.7	248.8	9.9	1.000006
92000.0	16.1	-46.6			24.8	586.4			1.000006
92500.0	15.8	-46.0			24.2	587.2			1.000005
93000.0	15.4	-45.4			23.6	587.9			1.000005

MRN SIGNIFICANT LEVEL DATA
0640020113
WHITE SANDS

STATION ALTITUDE 3999.00 FEET MSL
5 MAR. 77 0900 HRS MST
ASCENSION NO. 113

GEODETIC COORDINATES
32.40093 LAT DEG
106.37033 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	WIND DATA DIRECTION DEG (FN)	SPEED MPS	N-S MPS	E-W MPS	DEW PT DEP DEG C	TEMPERATURE AIR DEG C	PRESSURE MILLIBARS
2835.	9999.**	9999.**	-9999.**	-9999.**	99	-44.9	1.510+1
2650.	181.	5.	5.	0.	99	-51.?	2.000+1
2490.	110.	2.	1.	-2.	99	-52.1	2.500+1
2446.	96.	2.	0.	-2.	99	-55.0	2.740+1
2388.	105.	1.	0.	-1.	99	-54.3	3.000+1
2311.	151.	1.	1.	-1.	99	-53.5	3.360+1
2217.	107.	3.	1.	-3.	99	-58.3	3.920+1
2064.	7.	3.	-3.	-0.	99	-56.5	5.000+1
1921.	278.	3.	-0.	2.	99	-56.5	6.260+1
1891.	324.	1.	-1.	1.	99	-61.9	6.590+1
1853.	9.	3.	-3.	-0.	99	-60.7	7.000+1
1630.	294.	13.	-5.	12.	99	-58.9	1.000+2

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3989.00 FEET MSL
5 MAR. 79 0900 HRS MST
ASCENSION NO. 113

MANDATORY LEVELS
0640020113
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	5164.	4.0	-10.0	35.	24.6	6.3
800.0	6777.	2.6	-12.4	32.	43.2	4.9
750.0	8482.	-.5	-13.6	30.	5.1	1.2
700.0	10276.	-5.0	-15.3	44.	300.7	9.2
650.0	12175.	-7.2	-27.4	10.	351.0	7.9
600.0	14208.	-10.5	-30.2	10.	350.0	18.1
550.0	16389.	-14.6	-33.4	10.	338.1	25.9
500.0	18735.	-19.6	-37.2	19.	335.1	30.0
450.0	21270.	-26.1	-41.6	21.	347.1	36.2
400.0	24026.	-33.3	-46.8	24.	346.7	43.3
350.0	27060.	-40.5	-56.3	16.**	345.4	46.1
300.0	30441.	-49.3			342.3	44.9
250.0	34305.	-56.0			292.5	51.2
200.0	38963.	-54.2			299.0	40.9
175.0	41782.	-52.5			295.3	40.9
150.0	45040.	-53.8			298.1	39.1
125.0	48863.	-56.3			289.8	27.9
100.0	53486.	-58.9			293.5	25.6
80.0	58068.	-60.0			346.8	21.9
70.0	60799.	-60.7			9.2	5.9
60.0	63955.	-60.5			282.0	4.7
50.0	67715.	-58.5			6.8	5.2
40.0	72320.	-58.3			90.7	6.4
30.0	78345.	-54.3			104.1	2.3
25.0	82186.	-52.1			142.9	4.3
20.0	86929.	-51.9			160.9	10.5

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

MRN MANDATORY LEVELS

STATION ALTITUDE 3969.00 FEET MSL
5 MAR. 79 0900 HRS MST
ASCENSION NO. 113

0ZNB020113
WHITE SANDS

GEODETIC COORDINATES
32.40093 LAT DEG
106.37033 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	WIND DATA DIRECTION DEG (TN)	SPEED MPS	N-S MPS	E-W MPS	TEMPERATURE DEW PT DEP DEG C	AIR DEG C	PRESSURE MILLIBARS
2650.	181.	5.	5.	0.	99	-51.9	2.000+1
2505.	123.	2.	1.	-2.	99	-52.1	2.500+1
2388.	104.	1.	0.	-1.	99	-54.3	3.000+1
2284.	91.	3.	0.	-3.	99	-56.3	4.000+1
2054.	7.	3.	-3.	-0.	99	-58.5	5.000+1
1949.	282.	2.	-1.	2.	99	-58.5	6.000+1
1853.	9.	3.	-3.	-0.	99	-60.7	7.000+1
1770.	327.	11.	-9.	6.	99	-60.0	8.000+1
1630.	294.	13.	-5.	12.	99	-58.9	1.000+2
1489.	290.	14.	-5.	13.	99	-56.3	1.250+2
1373.	298.	20.	-9.	18.	99	-53.8	1.500+2
1274.	295.	21.	-9.	19.	99	-52.5	1.750+2
1198.	299.	21.	-10.	18.	99	-54.2	2.000+2
1046.	293.	26.	-10.	24.	99	-56.0	2.500+2
928.	322.	23.	-18.	14.	99	-49.3	3.000+2
825.	325.	24.	-20.	13.	16	-40.5	3.500+2
732.	327.	22.	-19.	12.	14	-33.3	4.000+2
648.	327.	19.	-16.	10.	16	-26.1	4.500+2
571.	335.	15.	-14.	7.	18	-19.6	5.000+2
500.	338.	13.	-12.	5.	19	-14.6	5.500+2
433.	351.	9.	-9.	1.	20	-10.5	6.000+2
371.	351.	4.	-4.	1.	20	-7.2	6.500+2
313.	301.	5.	-2.	4.	10	-5.0	7.000+2
259.	5.	1.	-1.	-0.	13	-.5	7.500+2
207.	43.	3.	-2.	-2.	15	2.6	8.000+2
157.	25.	3.	-3.	-1.	14	4.0	8.500+2